AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Currently amended): A printing inspection apparatus for inspecting a printing state of cream solder on a substrate after screen printing, said apparatus comprising:

image pick-up means for picking up an image of said substrate;

printing judging means for making a go/no-go judgment of the printing state based on an image pick-up result of said substrate from said image pick-up means and inspection data needed to perform a printing inspection; and

display means for displaying a judgment result,

wherein:

the inspection data is generated by classifying and grouping solder element shape and position data corresponding to a plurality of pattern holes, ~~indicating shapes and positions of element solder print portions formed through printing on electrodes provided on a circuit forming surface of said substrate to be used to bond electronic components,~~ into at least one data ~~groups~~ group which [[are]] is grouped according to a grouping condition apart from other data group, wherein the grouped data is identified by the grouping condition; and

said display means displays the judgment result in connection with the data groups.

Claim 2 (Original): The printing inspection apparatus according to Claim 1, wherein:

the grouping condition is determined based on a geometrical range on a printing surface of said substrate; and

said printing judging means makes a judgment of the printing state using a data group grouped as an inspection performance range.

Claim 3 (Original): The printing inspection apparatus according to Claim 1, wherein:

the grouping condition is determined based on an attribute of said electronic components; and

said printing judging means makes a judgment of the printing state using a data group grouped as an electronic component having an attribute specified as a subject to be inspected.

Claim 4 (Original): The printing inspection apparatus according to Claim 1, wherein:

the grouping condition is determined so as to make a one-to-one correspondence between said electronic components and the data groups; and

said display means displays the judgment result for each data group.

Claim 5 (Currently amended): A printing inspection method for inspecting a printing state of cream solder on a substrate after screen printing, said method comprising the step of:

making a go/no-go judgment of the printing state based on inspection data generated by ~~classifying~~ grouping unit shape and position data corresponding to a plurality of pattern holes~~, indicating shapes and positions of element solder print~~

~~portions formed through printing on electrodes provided on a circuit forming surface of said substrate to be used to bond electronic components,~~ into at least one data ~~groups~~ group which [[are]] is grouped according to a grouping condition apart from other data group, wherein the grouped data is identified by the grouping condition, and an image pick-up result of said substrate from image pick-up means; and

displaying a judgment result in connection with the data groups.

Claim 6 (Original): The printing inspection method according to Claim 5, wherein:

the grouping condition is determined based on a geometrical range on a printing surface of said substrate; and

a judgment of the printing state is made by using a data group grouped as an inspection performance range.

Claim 7 (Original): The printing inspection method according to Claim 5, wherein:

the grouping condition is determined based on an attribute of said electronic components; and

a judgment of the printing state is made by using a data group grouped as an electronic component having an attribute specified as a subject to be inspected.

Claim 8 (Original): The printing inspection method according to Claim 5, wherein:

the grouping condition is determined so as to make a one-to-one correspondence between said electronic components and the data groups; and

the judgment result is displayed for each data group.

Claim 9 (Currently amended): A printing inspection data generating apparatus for generating inspection data used in a printing inspection apparatus for inspecting a printing state of cream solder on a substrate after screen printing and containing shape and position data indicating shapes and positions of solder print portions formed by printing the cream solder on a printing surface, said printing inspection data generating apparatus comprising:

data providing means for providing element shape and position data indicating shapes and positions of element solder print portions formed on respective electrodes provided on a circuit forming surface of said substrate to be used to bond electronic components; and

grouping means for classifying and grouping the element shape and position data into data groups which are grouped according to a grouping condition to identify ~~individual data groups~~ at least one data group according to the grouping condition apart from other data group than the data group grouped.

Claim 10 (Original): The printing inspection data generating apparatus according to Claim 9, wherein:

the grouping condition is determined based on a geometrical range on the printing surface of said substrate.

Claim 11 (Original): The printing inspection data generating apparatus according to Claim 9, wherein:

the grouping condition is determined based on an attribute of said electronic components.

Claim 12 (Original): The printing inspection data generating apparatus according to Claim 9, wherein:

the grouping condition is determined so as to make one group for each of said electronic components.

Claim 13 (Original): The printing inspection data generating apparatus according to Claim 9, further comprising specific inspection data giving means for giving specific inspection data to the individual data groups.

Claim 14 (Original): The printing inspection data generating apparatus according to any of Claims 9 through 13, wherein:

said data providing means provides element shape and position data obtained based on mask opening data detected from a mask plate to be used for the screen printing.

Claim 15 (Currently amended): A printing inspection data generating method for generating inspection data used in a printing inspection apparatus for inspecting a printing state of cream solder on a substrate after screen printing and containing shape and position data indicating shapes and positions of solder print portions formed by printing the cream solder on a printing surface, wherein:

element shape and position data corresponding to a plurality of pattern holes~~, indicating shapes and positions of element solder print portions formed through printing on electrodes provided on a circuit forming surface of said substrate to be used to bond electronic components,~~ is grouped into at least one data ~~groups~~ group which [[are]] is grouped according to a grouping condition apart from other data group, wherein the grouped data is identified by the grouping condition.

Claim 16 (Original): The printing inspection data generating method according to Claim 15, wherein:

the grouping condition is determined based on a geometrical range on the printing surface of said substrate.

Claim 17 (Original): The printing inspection data generating method according to Claim 15, wherein:

the grouping condition is determined based on an attribute of said electronic components.

Claim 18 (Original): The printing inspection data generating method according to Claim 15, wherein:

the grouping condition is determined so as to make one group for each of said electronic components.

Claim 19 (Original): The printing inspection data generating method according to Claim 15, wherein:

specific inspection data is given to the individual data groups.

Claim 20 (Original): The printing inspection data generating method according to any of Claims 15 through 19, wherein the element shape and position data is provided based on mask opening data detected from a mask plate to be used for the screen printing.